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Wilson

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(54) **ALARM ASSEMBLY**

(71) Applicant: **David Wilson**, Tampa, FL (US)

(72) Inventor: **David Wilson**, Tampa, FL (US)

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G08B 21/02 (2006.01)

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CPC ***G08B 21/0205*** (2013.01)

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CPC B60W 2040/0881; G08B 21/0202; G08B 21/0446; G08B 21/22; B60Q 1/00
USPC 340/457, 667, 573.1, 539.23, 666, 340/686.1, 13.24; 180/271
See application file for complete search history.

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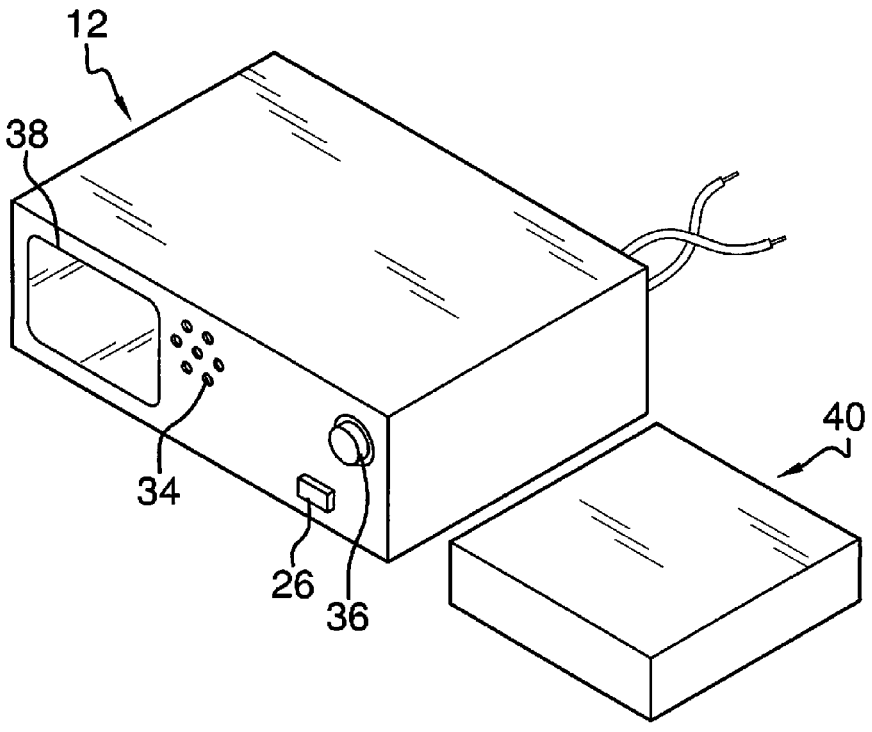
(57) **ABSTRACT**

An alarm assembly includes a receiver that is positionable in a vehicle. The receiver emits an audible alarm if the temperature inside the vehicle exceeds a predetermined level when the vehicle is occupied. A temperature sensor is operationally coupled to the receiver. The temperature sensor senses ambient temperature of the receiver's environment so the receiver emits the audible alarm. An occupant sensor is operationally coupled to the receiver. The occupant sensor is positionable beneath a child seat in a vehicle to communicate occupancy of the vehicle to the receiver. A bracelet is operationally coupled to the receiver. The bracelet may be worn by a child inside the vehicle so the bracelet communicates occupancy of the vehicle to the receiver. A collar is operationally coupled to the receiver. The collar may be worn by a pet inside the vehicle so the collar communicates occupancy of the vehicle to the receiver.

14 Claims, 4 Drawing Sheets



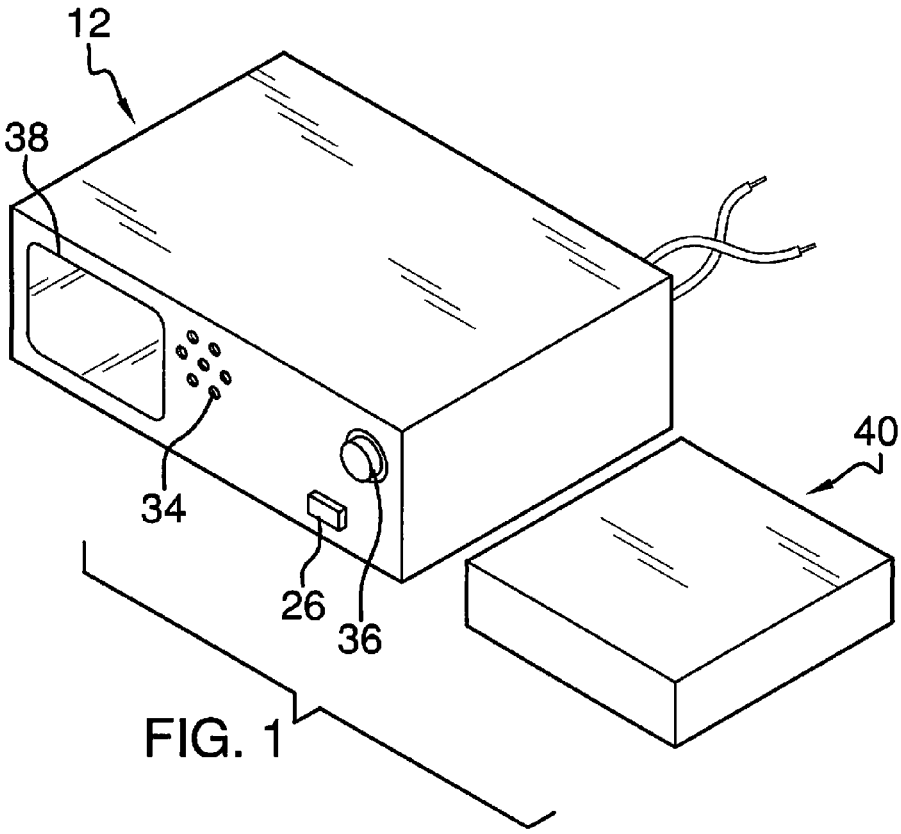


FIG. 1

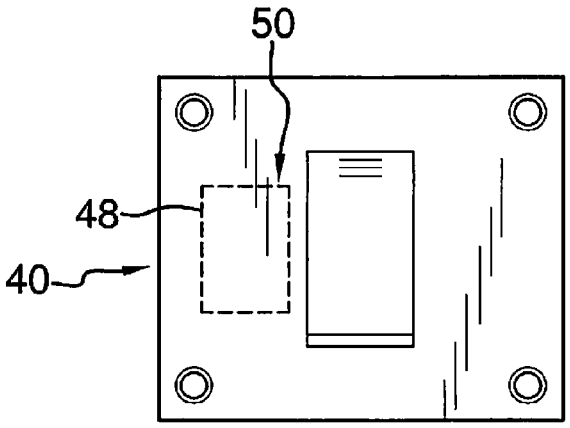


FIG. 2

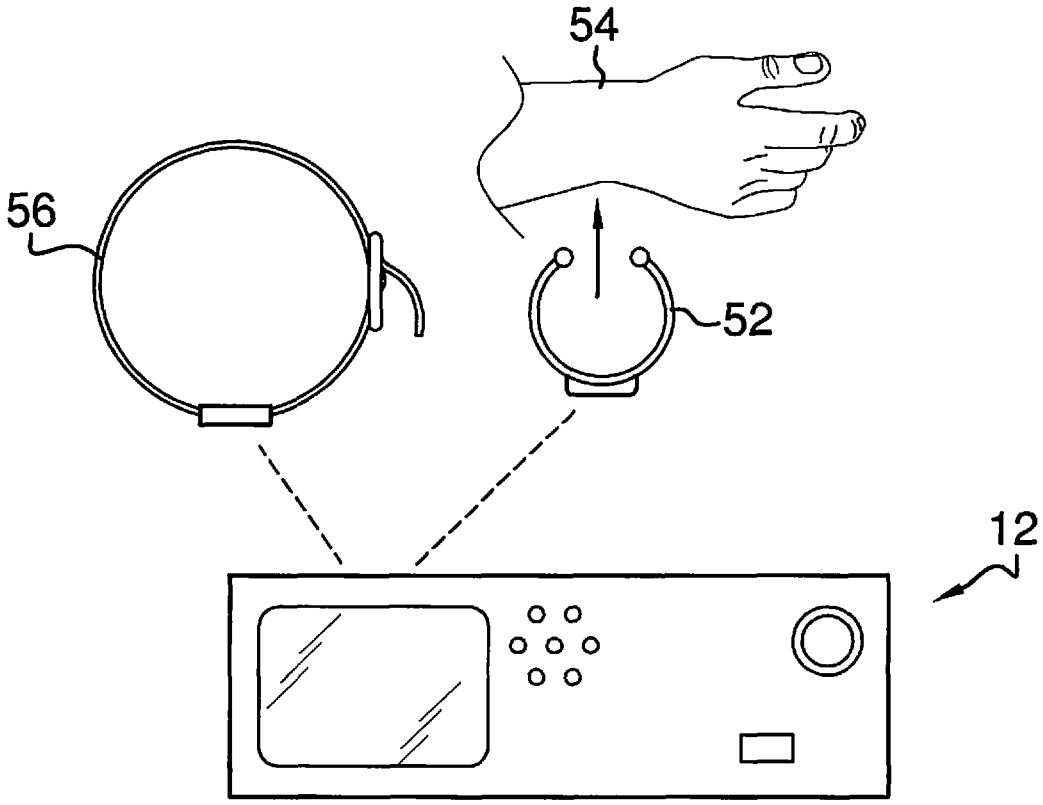


FIG. 3

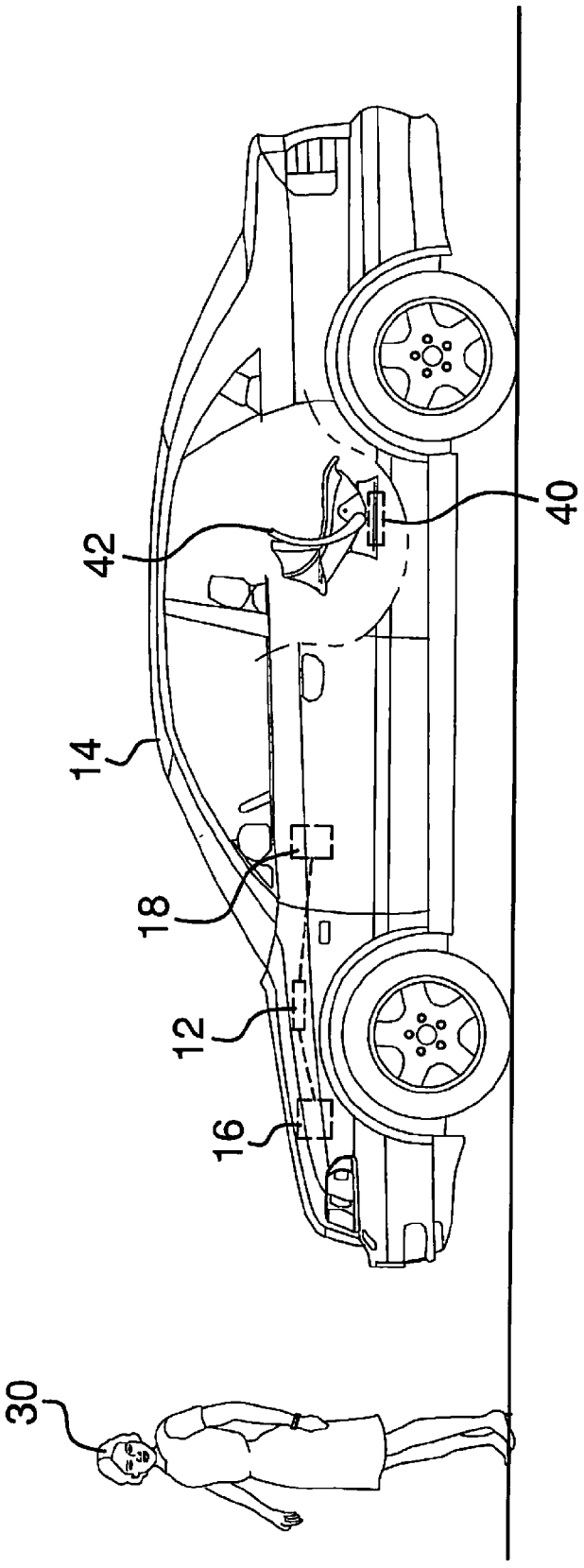


FIG. 4

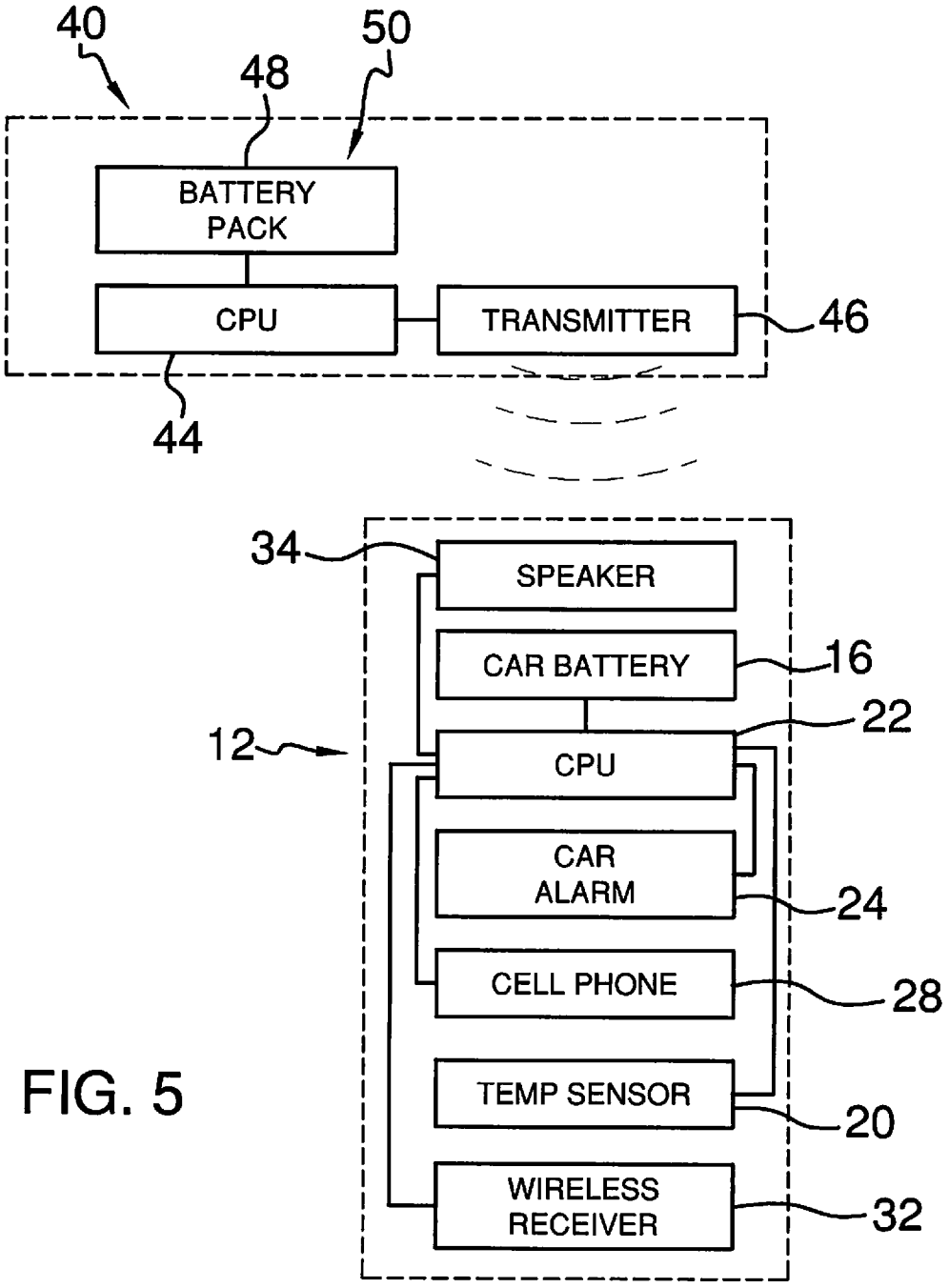

40
48
50
BATTERY PACK
CPU
TRANSMITTER
46
44
34
SPEAKER
CAR BATTERY
16
12
22
CPU
CAR ALARM
24
CELL PHONE
28
TEMP SENSOR
20
WIRELESS RECEIVER
32

FIG. 5

ALARM ASSEMBLY

BACKGROUND OF THE DISCLOSURE

Field of the Disclosure

The disclosure relates to alarm devices and more particularly pertains to a new alarm device for notifying a user of an occupant left in a vehicle.

SUMMARY OF THE DISCLOSURE

An embodiment of the disclosure meets the needs presented above by generally comprising a receiver that is positionable within an interior of a vehicle. The receiver emits an audible alarm if the temperature inside the vehicle exceeds a predetermined level when the vehicle is occupied. A temperature sensor is operationally coupled to the receiver. The temperature sensor senses ambient temperature of the receiver's environment so the receiver emits the audible alarm. An occupant sensor is operationally coupled to the receiver. The occupant sensor is positionable beneath a child seat in a vehicle such that the occupant sensor senses weight so the occupant sensor communicates occupancy of the vehicle to the receiver. A bracelet is operationally coupled to the receiver. The bracelet is may be worn by a child inside the vehicle so the bracelet communicates occupancy of the vehicle to the receiver. A collar is operationally coupled to the receiver. The collar may be worn by a pet inside the vehicle so the collar communicates occupancy of the vehicle to the receiver.

There has thus been outlined, rather broadly, the more important features of the disclosure in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the disclosure that will be described hereinafter and which will form the subject matter of the claims appended hereto.

The objects of the disclosure, along with the various features of novelty which characterize the disclosure, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

The disclosure will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. **1** is a perspective view of a alarm assembly according to an embodiment of the disclosure.

FIG. **2** is a bottom view of an embodiment of the disclosure.

FIG. **3** is a front view of an embodiment of the disclosure.

FIG. **4** is an in-use view of an embodiment of the disclosure.

FIG. **5** is a schematic view of an embodiment of the disclosure.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to FIGS. **1** through **5** thereof, a new alarm device embodying the principles and concepts of an embodiment of the disclosure and generally designated by the reference numeral **10** will be described.

As best illustrated in FIGS. **1** through **5**, the alarm assembly **10** generally comprises a receiver **12** that is positionable within an interior of a vehicle **14**. The receiver **12** may also be placed in a room or other area to be observed. The receiver **12** is electrically coupled to a vehicle power source **16** so the receiver **12** is powered. The receiver **12** is in electrical communication with a vehicle ignition system **18** such that the receiver **12** senses when a key has been removed from the vehicle ignition system **18** so the ignition system **18** actuates the receiver **12** to detect occupancy. The receiver **12** emits an audible alarm if the temperature inside the vehicle **14** exceeds a predetermined level when the vehicle **14** is occupied.

A temperature sensor **20** is electrically coupled to the receiver **12**. The temperature sensor **20** senses ambient temperature of the receiver's **12** environment so the receiver **12** emits the audible alarm if the temperature exceeds a predetermined level. A first processor **22** is coupled to the receiver **12** and is in electrical communication with the temperature sensor **20**. The first processor **22** receives temperature data from the temperature sensor **20**. The first processor **22** is in selective electrical communication with a theft alarm **24** in the vehicle **14** so the theft alarm **24** emits an audible alarm if the temperature sensor **20** communicates a temperature exceeding the predetermined level. A temperature actuator **26** is coupled to the receiver **12**. The temperature actuator **26** is in electrical communication with the first processor **22**. The temperature actuator **26** selects the predetermined maximum temperature.

The first processor **22** may be in selective electromagnetic communication with a user's cellular phone **28** so the cellular phone **28** alerts the user **30** if the temperature sensor **20** communicates a temperature exceeding the predetermined level to the first processor **22**. The first processor **22** includes a wireless receiver **32**. The wireless receiver **32** may be an RF wireless receiver. The wireless receiver **32** may have an operational frequency between 2400 MHz and 2480 MHz. The wireless receiver **32** is in electrical communication with the first processor **22**. The wireless receiver **32** receives radio frequency transmission.

A speaker **34** is coupled to the receiver **12**. The speaker **34** is in electrical communication with the first processor **22**. The speaker **34** emits an audible alarm if the temperature sensor **20** detects a temperature exceeding the predetermined level. An actuator **36** is coupled to the receiver **12**. The actuator **36** is in electrical communication with the first processor **22** and the temperature sensor **20**. The actuator **36** selectively actuates and de-actuates the first processor **22** and the temperature sensor **20**. A temperature indicator **38** is coupled to the receiver **12**. The temperature indicator **38** is in electrical communication with the first processor **22**. The temperature indicator **38** illuminates when the first processor **22** detects an excessive temperature. The temperature indicator **38** may be an LED.

An occupant sensor **40** is in electrical communication with the receiver **12**. The occupant **40** sensor is positionable beneath a child seat **42** in a vehicle **14** such that the occupant sensor **40** senses weight so the occupant sensor **40** communicates occupancy of the vehicle to the receiver **12**. The occupant sensor **40** may have a sensitivity range between 4.5 kg and 32 kg. A second processor **44** coupled to the occupant sensor **40**. The second processor **44** is in electrical communication with the occupant sensor **40** so the occupant sensor **40** communicates occupancy to the second processor **44**.

The second processor **44** includes a wireless transmitter **46**. The wireless transmitter **46** may be an RF wireless transmitter. The wireless transmitter **46** may have an operational frequency between 2400 MHz and 2480 MHz. The wireless

transmitter **46** is in electrical communication with the second processor **44** so the wireless transmitter **46** receives occupancy notification from the second processor **44**. The wireless transmitter **46** is in electromagnetic communication with the wireless receiver **32** so the first processor **22** is actuated when the second processor **44** receiver occupancy notification. The first processor **22** is de-actuated when the second processor **44** does not receive occupancy notification. The first processor **22** will not trigger the audible alarm if the second processor **44** does not receive occupancy notification.

A power supply **48** is coupled to the occupant sensor **40**. The power supply **48** is in electrical communication with the second processor **44**. The power supply **48** comprises at least one battery **50**. A bracelet **52** is in electromagnetic communication with the wireless receiver **32**. The bracelet **52** may be worn on a child's wrist **54**. The bracelet **52** notifies the receiver **12** of an occupant in the vehicle **14** if the occupant is not seated in the child seat **42** so the receiver **12** generates an audible alarm is the temperature in the vehicle exceeds the predetermined level. The bracelet **52** serves to communicate occupancy to the first processor **22** in addition to the occupant sensor **40**. A collar **56** is in electromagnetic communication with the wireless receiver **32**. The collar **56** notifies the receiver **12** of a pet in the vehicle **14** so the receiver **12** generates an audible alarm if the temperature in the vehicle **14** exceeds the predetermined level.

In use, the assembly **10** may be used to notify the user **30** if an occupant has been left in a vehicle **14** and is in danger of exposure to extreme temperatures. The receiver **12** may be used in any location to alert the user **30** if an occupant is in proximity to the receiver **12**. The receiver **12** may be placed in communication with the user's cell phone **28** so the user **30** is notified when the temperature in the vehicle **14** becomes dangerous. The receiver **12** may actuate the theft alarm **24** in the vehicle **14** so that only the user **30** may deactivate the alarm. The theft alarm **24** in the vehicle **14** may alert bystanders of a potential danger to an occupant in the event that the user **30** cannot be notified or contacted.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of an embodiment enabled by the disclosure, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by an embodiment of the disclosure.

Therefore, the foregoing is considered as illustrative only of the principles of the disclosure. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the disclosure to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the disclosure.

I claim:

1. An alarm assembly configured to detect extreme temperature changes, said assembly comprising:

a receiver being positionable within an interior of a vehicle, said receiver emitting an audible alarm if the temperature inside the vehicle exceeds a predetermined level when the vehicle is occupied;

a temperature sensor operationally coupled to said receiver, said temperature sensor sensing ambient temperature of the receiver's environment whereby said receiver emits the audible alarm;

an occupant sensor operationally coupled to said receiver, said occupant sensor being positionable beneath a child seat in a vehicle such that said occupant sensor senses weight whereby said occupant sensor communicates occupancy of the vehicle to said receiver;

a bracelet operationally coupled to said receiver, said bracelet being configured to be worn by a child inside the vehicle whereby said bracelet communicates occupancy of the vehicle to said receiver; and

a collar operationally coupled to said receiver, said collar being configured to be worn by a pet inside the vehicle whereby said collar communicates occupancy of the vehicle to said receiver;

a first processor coupled to said receiver and being in electrical communication with said temperature sensor, said first processor receiving temperature data from said temperature sensor; and

an actuator being coupled to said receiver, said actuator being in electrical communication with said first processor and said temperature sensor, said actuator selectively actuating and de-actuating said first processor and said temperature sensor.

2. The assembly according to claim **1**, further including said receiver being in electrical communication with a vehicle ignition system such that said receiver senses when a key has been removed from the vehicle ignition system whereby said ignition system actuates said receiver to detect occupancy.

3. The assembly according to claim **1**, further including said first processor including a wireless receiver, said wireless receiver being in electrical communication with said first processor, said wireless receiver receiving radio frequency transmission.

4. The assembly according to claim **1**, further including said first processor being in selective electrical communication with a theft alarm in the vehicle whereby said theft alarm emits an audible alarm if said temperature sensor communicates a temperature exceeding the predetermined level to said first processor.

5. The assembly according to claim **1**, further including said first processor being in selective electromagnetic communication with a user's cellular phone whereby said cellular phone alerts the user if said temperature sensor communicates a temperature exceeding the predetermined level to said first processor.

6. The assembly according to claim **1**, further including a speaker coupled to said receiver, said speaker being in electrical communication with said first processor, said speaker emitting an audible alarm if said temperature sensor detects a temperature exceeding the predetermined level.

7. The assembly according to claim **1**, further including said receiver being electrically coupled to a vehicle power source whereby said receiver is powered.

8. The assembly according to claim **1**, further including said occupant sensor being in electrical communication with said receiver.

9. The assembly according to claim **1**, further including a second processor coupled to said occupant sensor, said second processor being in electrical communication with said occupant sensor whereby said occupant sensor communicates occupancy to said second processor.

10. The assembly according to claim **1**, further including a power supply coupled to said occupant sensor, said power supply being in electrical communication with said second processor, said power supply comprising at least one battery.

11. The assembly according to claim **1**, further including:

said first processor including a wireless receiver;

said bracelet being in electromagnetic communication with said wireless receiver such that said bracelet notifies said receiver of an occupant in the vehicle if the

occupant is not seated in the child seat whereby said receiver generates an audible alarm if the temperature in the vehicle exceeds the predetermined level.

12. The assembly according to claim **1**, further including:

said first processor including a wireless receiver;

said collar being in electromagnetic communication with said wireless receiver such that said collar notifies said receiver of a pet in the vehicle whereby said receiver generates an audible alarm if the temperature in the vehicle exceeds the predetermined level.

13. An alarm assembly configured to detect extreme temperature changes, said assembly comprising:

a receiver being positionable within an interior of a vehicle, said receiver emitting an audible alarm if the temperature inside the vehicle exceeds a predetermined level when the vehicle is occupied;

a temperature sensor operationally coupled to said receiver, said temperature sensor sensing ambient temperature of the receiver's environment whereby said receiver emits the audible alarm;

an occupant sensor operationally coupled to said receiver, said occupant sensor being positionable beneath a child seat in a vehicle such that said occupant sensor senses weight whereby said occupant sensor communicates occupancy of the vehicle to said receiver;

a bracelet operationally coupled to said receiver, said bracelet being configured to be worn by a child inside the vehicle whereby said bracelet communicates occupancy of the vehicle to said receiver; and

a collar operationally coupled to said receiver, said collar being configured to be worn by a pet inside the vehicle whereby said collar communicates occupancy of the vehicle to said receiver;

a second processor coupled to said occupant sensor, said second processor being in electrical communication with said occupant sensor whereby said occupant sensor communicates occupancy to said second processor;

said first processor including a wireless receiver; and

said second processor including a wireless transmitter, said wireless transmitter being in electrical communication with said second processor whereby said wireless transmitter receives occupancy notification from said second processor, said wireless transmitter being in electromagnetic communication with said wireless receiver whereby said first processor is actuated when said second processor receiver occupancy notification and said first processor is de-actuated when said second processor does not receive occupancy notification.

14. An alarm assembly configured to detect extreme temperature changes, said assembly comprising:

a receiver being positionable within an interior of a vehicle, said receiver being electrically coupled to a vehicle power source whereby said receiver is powered, said receiver being in electrical communication with a vehicle ignition system such that said receiver senses when a key has been removed from the vehicle ignition system whereby said ignition system actuates said receiver to detect occupancy, said receiver emitting an audible alarm if the temperature inside the vehicle exceeds a predetermined level when the vehicle is occupied;

a temperature sensor operationally coupled to said receiver, said temperature sensor sensing ambient temperature of the receiver's environment whereby said receiver emits the audible alarm;

a first processor coupled to said receiver and being in electrical communication with said temperature sensor, said first processor receiving temperature data from said temperature sensor, said first processor being in selective electrical communication with a theft alarm in the vehicle whereby said theft alarm emits an audible alarm if said temperature sensor communicates a temperature exceeding the predetermined level to said first processor, said first processor being in selective electromagnetic communication with a user's cellular phone whereby said cellular phone alerts the user if said temperature sensor communicates a temperature exceeding the predetermined level to said first processor, said first processor including;

a wireless receiver, said wireless receiver being in electrical communication with said first processor, said wireless receiver receiving radio frequency transmission;

a speaker coupled to said receiver, said speaker being in electrical communication with said first processor, said speaker emitting an audible alarm if said temperature sensor detects a temperature exceeding the predetermined level;

an actuator being coupled to said receiver, said actuator being in electrical communication with said first processor and said temperature sensor, said actuator selectively actuating and de-actuating said first processor and said temperature sensor;

an occupant sensor being in electrical communication with said receiver, said occupant sensor being positionable beneath a child seat in a vehicle such that said occupant sensor senses weight whereby said occupant sensor communicates occupancy of the vehicle to said receiver;

a second processor coupled to said occupant sensor, said second processor being in electrical communication with said occupant sensor whereby said occupant sensor communicates occupancy to said second processor, said second processor including;

a wireless transmitter, said wireless transmitter being in electrical communication with said second processor whereby said wireless transmitter receives occupancy notification from said second processor, said wireless transmitter being in electromagnetic communication with said wireless receiver whereby said first processor is actuated when said second processor receiver occupancy notification and said first processor is de-actuated when said second processor does not receive occupancy notification;

a power supply coupled to said occupant sensor, said power supply being in electrical communication with said second processor, said power supply comprising at least one battery;

a bracelet being in electromagnetic communication with said wireless receiver such that said bracelet notifies said receiver of an occupant in the vehicle if the occupant is not seated in the child seat whereby said receiver generates an audible alarm if the temperature in the vehicle exceeds the predetermined level; and

a collar being in electromagnetic communication with said wireless receiver such that said collar notifies said receiver of a pet in the vehicle whereby said receiver generates an audible alarm if the temperature in the vehicle exceeds the predetermined level.

* * * * *